

ABSTRACT

A common mode noise filter includes a first insulating layer made of magnetic material, a first conductor on the first insulating layer, a second insulating layer located on the first conductor and made of nonmagnetic material, a second conductor having a spiral shape on the second insulating layer and connected with the first conductor, a third insulating layer located on the second conductor and made of nonmagnetic material, a third conductor having a spiral shape provided on the third insulating layer, a fourth insulating layer located on the third conductor and made of nonmagnetic material, a fourth conductor connected with the third conductor, a fifth insulating layer provided on the fourth conductor and made of magnetic material. The first conductor and the second conductor provide a first coil. The third conductor and the fourth conductor provide a second coil. The third insulating layer is thicker than the second insulating layer and the fourth insulating layer. This filter can increase impedance of the first and second coils against common mode components.